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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Parts 25 and 121

[Docket No.: FAA-2022-0772; Amdt. Nos. 25-150 and 121-389]

RIN 2120-AL59

Installation and Operation of Flightdeck Installed Physical Secondary Barriers on Transport Category Airplanes in Part 121 Service

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Final rule.

SUMMARY: This final rule implements a mandate in the FAA Reauthorization Act of 2018 by requiring that certain airplanes used to conduct domestic, flag, or supplemental passenger-carrying operations have installed a physical secondary barrier that protects the flightdeck from unauthorized intrusion when the flightdeck door is opened.

DATES: Effective [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: For information on where to obtain copies of rulemaking documents and other information related to this final rule, see “Additional Information” in the

SUPPLEMENTARY INFORMATION section of this document.

FOR FURTHER INFORMATION CONTACT: For technical questions concerning this action, contact Dan Jacquet, AIR-626, Human-Machine Interface Section, Technical Policy Branch, Policy and Innovation Division, Aircraft Certification Service, Federal Aviation Administration, 2200 South 216th Street, Des Moines, WA 98198; telephone (206) 231-3208; email Daniel.Jacquet@faa.gov.

SUPPLEMENTARY INFORMATION:

I. Executive Summary

This final rule implements¹ section 336 of the FAA Reauthorization Act of 2018 by requiring the installation and use of an installed physical secondary barrier (IPSB) that will be deployed (closed and locked) whenever the flightdeck door is opened while the airplane is in flight. This final rule affects operators conducting passenger-carrying operations under title 14 of the Code of Federal Regulations (14 CFR), part 121, with transport category airplanes operating in the United States by requiring the operators to use the IPSB, when installed, as part of their procedures for opening the flightdeck door. Affected operators must comply with this rule when operating transport category airplanes manufactured two years after the effective date of this final rule.

In this final rule, the FAA estimates costs of \$35,000 for the purchase and installation of an IPSB. After the addition of training and other costs, the present value costs for this rule are \$236.5 million (\$20.3 million annualized) at a 7 percent discount rate and \$505 million (\$29 million annualized) at a 3 percent discount rate. When the flightdeck door must be opened for lavatory breaks, meal service, or crew changes, the flightdeck could be vulnerable to attack. The benefit of this rule, requiring installation and use of IPSBs on airplanes in part 121 service, is to slow such an attack long enough so that an open flightdeck door can be closed and locked before an attacker could reach the flightdeck.

II. Authority for this Rulemaking

The FAA's authority to issue rules on aviation safety is found in Title 49 of the United States Code (U.S.C.). Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the agency's authority.

¹ The FAA determined that an informal rulemaking proceeding under section 553 of the Administrative Procedure Act is appropriate to prospectively apply these requirements on certain newly-manufactured airplanes.

This rulemaking is issued under the authority described in Subtitle VII, part A, subpart III, section 44701, “General Requirements.” Under that section, the FAA is charged with prescribing regulations and minimum standards for the design and performance of aircraft that the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority.

In addition, section 336, “Secondary Cockpit Barriers,” of the FAA Reauthorization Act of 2018, Public Law 115-254 (Oct. 5, 2018), directs the Administrator of the FAA to issue an order requiring installation of a secondary flightdeck barrier on “each new aircraft that is manufactured for delivery to a passenger air carrier in the United States operating under the provisions of part 121 of title 14, Code of Federal Regulations.”

III. Background

A. History

Following the events of September 11, 2001, the FAA adopted standards for flightdeck security in January 2002 by adding 14 CFR 25.795 and amending 14 CFR 121.313.² Those amendments were intended to make the flightdeck resistant to forcible intrusion and small firearms, and prevent unauthorized entry into the flightdeck. These requirements were based on International Civil Aviation Organization (ICAO) standards,³ and the recommendations of the Aviation Rulemaking Advisory Committee (ARAC)⁴ Design for Security Harmonization Working Group. ARAC included representatives of aircraft owners and operators, airmen and flight crewmembers, airports, aircraft maintenance

² *Security Considerations in the Design of the Flightdeck on Transport Category Airplanes*, 67 FR 2117 (January 15, 2002).

³ Adopted by Amendment 97 to Annex 8 to the Convention on International Civil Aviation on March 12, 1997.

⁴ See ARAC – ICAO Amendment 97 to Annex 8 and Resistance to Intrusion Complete File (Design for Security HWG, TAE), www.faa.gov/regulations_policies/rulemaking/committees/documents/index.cfm/document/information/documentID/342.

providers, aircraft manufacturers, public citizen and passenger groups, training providers, and labor organizations.

Even a strong and secure flightdeck door, however, must occasionally open to accommodate necessary activities such as lavatory breaks and meal service. Between the time of opening and closing the flightdeck door (door transition), the open flightdeck has some degree of vulnerability to attack. Such an attack could happen quickly, and leave insufficient time for the cabin crew to react.

Therefore, in 2007, the FAA promulgated requirements⁵ to address the security of the flightdeck when the flightdeck door was opened, however briefly. Specifically, the FAA adopted §§ 121.584, “Requirement to view the area outside the flightdeck door,” and 121.587, “Closing and locking of flightcrew compartment door,” to require that the flightdeck door be locked when the airplane is in operation, unless it is necessary to open it to permit access by authorized persons, and require compliance with FAA-approved procedures for opening the door.

As a result of these new requirements, air carriers and type design holders developed various methods and designs, including the use of crewmembers and equipment and, in limited cases, IPSBs,⁶ to help secure the flightdeck during the period when the flightdeck door was open during flight. To provide guidance and recommendations for these different methods and designs, RTCA, Inc. (RTCA),⁷ formed a committee to develop recommended procedures and standards for airplane secondary barriers. In 2011, RTCA produced DO-329, “Aircraft Secondary Barriers and Alternative Flight Deck Security Procedures.” DO-329 describes various means of addressing the times when the flightdeck door must be opened. In this context, these means can be combinations of people, procedures and/or equipment.

⁵ *Flightdeck Door Monitoring and Crew Discreet Alerting Systems* (72 FR 45629; August 15, 2007).

⁶ Relatively few such IPSBs were installed, relative to the total number of airplanes in scheduled service, and most have since been removed. The FAA is not aware of the reasons for removal. In addition, the FAA has no data regarding whether those varying installations would have met the requirements of this proposal.

⁷ RTCA was formerly the Radio Technical Commission for Aeronautics and an Advisory Committee to the FAA.

The document does not recommend one of these means over another, but provides advice on the use of each one to meet the objective of a secure flightdeck. Subsequently and based on the RTCA's report, the FAA issued Advisory Circular (AC) 120-110, "Aircraft Secondary Barriers and Alternate Flight Deck Security Procedures," in 2015. That AC references various means of compliance with § 121.584(a)(1), which prohibits the flightdeck door from being unlocked during flight unless the operator has an approved procedure and visual device to verify that the area outside the flightdeck door is secure.

B. Congressional Mandate

On October 5, 2018, Congress enacted the FAA Reauthorization Act of 2018 (the "Act"). Section 336 of the Act required the FAA to issue an order requiring installation of a secondary flightdeck barrier on each new aircraft that is manufactured for delivery to a passenger air carrier in the United States operating under provisions of part 121.

C. ARAC Report

On June 20, 2019, to facilitate the implementation of the mandate in section 336 to require secondary barriers on certain aircraft, the FAA tasked ARAC⁸ to recommend standards for IPSB. The ARAC formed the Flightdeck Secondary Barrier Working Group (the "Working Group"), under the Transport Airplane and Engine Subcommittee, to carry out the tasks. The Working Group included representatives from manufacturers, air carriers, and pilot and flight attendant unions. On February 27, 2020, the Working Group submitted its "Recommendation Report to Aviation Rulemaking Advisory Committee for Implementation of Section 336 of P.L. 115-254" (the "Report")⁹ to ARAC. ARAC accepted

⁸ See Flightdeck Secondary Barrier Tasking Notice (June 20, 2019), www.faa.gov/regulations_policies/rulemaking/committees/documents/index.cfm/document/information?documentID=3943.

⁹ See Flightdeck Secondary Barriers Working Group Report, available in the docket for this rulemaking and at www.faa.gov/regulations_policies/rulemaking/committees/documents/index.cfm/document/information?documentID=4342.

the Report in March of 2020 and forwarded it to the FAA.¹⁰ The Report contained 21 recommendations, most of which were by consensus.¹¹ This final rule incorporates those consensus recommendations.

D. Summary of the Notice of Proposed Rulemaking (NPRM) and Final Rule

This rulemaking finalizes the NPRM published August 1, 2022, which proposed to implement section 336 of the Act by requiring that certain airplanes used to conduct passenger-carrying operations under 14 CFR part 121 (i.e., domestic, flag, or supplemental) have an IPSB that protects the flightdeck from unauthorized intrusion when the flightdeck door is opened (87 FR 46892).

In the NPRM, the FAA proposed that the IPSB must resist intrusion, provide line-of-sight visibility to allow crewmember situational awareness of the area between the passenger cabin and the entry to the flightdeck, and meet certain physical standards (i.e., design standards in new § 25.795(a)(4)), but still allow for necessary crewmember activities.

The proposed rulemaking would affect operators conducting passenger-carrying operations under part 121 with transport category airplanes. The NPRM proposed that operators would be required to incorporate the use of an installed IPSB into their flightdeck door opening procedures and require crewmembers to deploy the IPSB before opening the flightdeck door. The FAA proposed that the rule would apply to operation of transport category airplanes manufactured two years after the effective date of a final rule.

This rule adopts the proposal with limited changes to clarify the applicability of the part 25 design requirements for IPSBs to airplanes required by operating rules to have IPSBs, and to clarify that the requirement for part 121 operators' airplanes to be equipped with IPSB applies only to passenger-carrying transport category airplanes. The final rule

¹⁰ See Aviation Rulemaking Advisory Committee (ARAC) Meeting (June 18, 2020), www.faa.gov/regulations_policies/rulemaking/committees/documents/media/ARAC%20June%202020%20Meeting%20Packet.pdf.

¹¹ As discussed in section II.C of the NPRM for this rulemaking (87 FR 46892).

also includes the “line of sight” design requirement as a part 25 design requirement, rather than an operating rule.

E. General Overview of Public Comments

The FAA received comments from 31 commenters, including Airlines for America (A4A); Association of Flight Attendants-Communications Workers of America, AFL-CIO (AFA-CWA); Aerospace Industries Association (AIA); Air Line Pilots Association, International (ALPA); Airbus Commercial Aircraft (Airbus); National Civil Aviation Agency of Brazil (ANAC); Allied Pilots Association (APA); The Boeing Company (Boeing); Coalition of Airline Pilots Association (CAPA); Cabin Ops Safety Risk Management, LLC (Cabin Ops); Embraer S. A. (Embraer); International Coordinating Council of Aerospace Industries Associations-Cabin Safety Working Group (ICCAIA-CSWG); Japan Civil Aviation Bureau (JCAB); Regional Airline Association (RAA); Southwest Airlines Pilots Association (SWAPA); Transport Canada Civil Aviation (TCCA); the Transportation Trades Department, AFL-CIO (TTD); United Airlines, Inc. (United); and several individuals.

Commenters generally supported the implementation of an IPSB in transport category airplanes but submitted requests for additional modifications. These requests generally address the following: compliance time; international harmonization; applicability; retrofit of IPSBs onto the existing fleet; part 129 airplanes; crew staffing and training concerns; changes to the “reach through” requirement; requests that the FAA clarify whether a malfunctioning IPSB would prevent the airplane’s operation; questions regarding whether operators need to upgrade equipment and procedures that provide information to the flightdeck; and the cost and benefit evaluation.

In addition, the commenters addressed the draft ACs that accompanied the NPRM, as well as requests for specific details pertaining to compliance. The FAA’s responses to

these comments can be found at the Dynamic Regulatory System (drs.faa.gov), along with the finalized ACs.

IV. Discussion of Comments and the Final Rule

A. Compliance Time

In the NPRM, the FAA proposed to amend § 121.313 by requiring part 121 operators to have an IPSB on transport category airplanes manufactured two years after the effective date of the final rule.

ALPA, APA, CAPA, SWAPA, and TTD recommended that the compliance period should be reduced, so that the rule applies to airplanes manufactured one year (12 months) after the effective date of this final rule. They stated that doing so would align with the intent of Congress, and the text of the legislation, which mandated the FAA to issue an order by October 5, 2019. These commenters reasoned that a one-year compliance period would be enough, because manufacturers and airlines were provided with sufficient notice of the substance and urgency of the requirement when the legislation mandated in 2018 that the FAA issue an order within a year, and when ARAC issued the Report in 2020. These commenters further stated that aircraft manufacturers should already have preparations substantially underway to facilitate the installation of IPSB on newly-manufactured aircraft. There has been voluntary industry movement toward designing and implementing IPSB since 2003 (two major airlines¹² voluntarily installed IPSB on more than a hundred of their aircraft, and two aircraft manufacturers¹³ had previously offered IPSB as standard equipment on newly-manufactured aircraft), so some manufacturers already possess procedures to implement IPSB installation. Additionally, a consensus-based technical standard exists in an RTCA document;¹⁴ the industry has had access to the ARAC

¹² Delta Air Lines and United.

¹³ Airbus and Boeing.

¹⁴ DO-329, “Aircraft Secondary Barriers and Alternative Flight Deck Security Procedures,” discussed in the NPRM.

recommendations addressing implementation of the legislation for more than two years; and the FAA also published draft ACs that provided recommended standards and procedures.

In contrast, A4A, AIA, Airbus, Boeing, Embraer, the ICCAIA-CSWG, and RAA recommended that the FAA increase the compliance period to three years (36 months) after the effective date of the final rule. Airbus stated that, because the requirements would impact many aircraft types and cabin interior configurations, the industry would be required to develop many IPSBs, each with unique type design criteria in parallel, resulting in the need for significant resources from original equipment manufacturers (OEMs), the supplier community, and the FAA to review and certify these unique designs. These commenters pointed out that, because the proposed requirements and the draft ACs provided performance-based requirements, additional time would be needed to derive specific design criteria to comply with the requirements. These commenters then provided general overviews of the steps required to develop, certify, test, manufacture, and install a new IPSB; to train crew and maintenance staff; and, to establish the necessary supply chain—the completion of which would necessitate more than two years. A4A stated that a 2-year implementation timeframe could only be possible if IPSBs are “plug-and-play” installations with already-existing parts. Boeing further pointed out that the industry is experiencing additional manufacturing delays due to the COVID-19 pandemic. In addition, these commenters reiterated a study¹⁵ cited in the Report that predicted three years would be required to fully design and implement IPSB on newly-manufactured aircraft. Embraer and the ICCAIA-CSWG also stated that design holders and applicants would not be able to begin their compliance efforts until the FAA publishes its final rule.

¹⁵ “Secondary Cockpit Barriers OEM Working Group – Position on Proposed Secondary Barriers Installation for 14 CFR Part 121 Aircrafts” (June 13, 2019).

Embraer also pointed to a DOT NPRM, published in January 2020, as support for a three-year compliance time. This NPRM¹⁶ would require carriers flying single-aisle aircraft to make changes to their lavatory on new aircraft to better accommodate the needs of disabled passengers. Embraer stated this NPRM proposed changes similar in complexity to the installation of an IPSB, yet DOT had proposed a three-year compliance date after the publication of the final rule to provide the time necessary for equipment and airplane manufacturers to make required changes to the interiors of their airplane and obtain the appropriate regulatory approvals for those changes. TCCA commented that two years seems optimistic to design, certify, and implement IPSB installation.

In summary, arguments for shortening the compliance time are mainly based on the mandate in the legislation, and the amount of time that has passed since then. Arguments for extending the compliance time point to the engineering challenges for different aircraft types, and to the fact that, until a final rule is enacted, manufacturers do not have criteria on which to base designs.

The FAA notes that two years is more time than was given for the mandatory retrofit of reinforced flightdeck doors. Also, equipment and airplane manufacturers are starting from a position of greater experience and design understanding, than existed when the flightdeck door requirements were enacted. Conversely, it is true that final design and manufacturing is not feasible until the final standards are adopted. This makes a one-year compliance time unrealistic. As was discussed in the NPRM, the FAA also considered—in proposing the two-year compliance time the variety of competing concerns and arguments that were presented during the ARAC activity, and the resulting recommendations for either 18- or 36-month compliance times, all as memorialized in the Report. Given the foregoing, the FAA

¹⁶ *Accessible Lavatories on Single-Aisle Aircraft: Part 1 Notice of Proposed Rulemaking*, 85 FR 27 (2020). The changes proposed in the NPRM included such additions as grab bars, lavatory faucets with tactile information on temperature, attendant call buttons, and a modification to the lavatory door.

continues to determine that a two-year compliance time, as proposed by the NPRM, is appropriate.

In a related comment, United stated that, because the FAA proposed to place the compliance deadline in part 121, the burden to comply with proposed § 121.313 would fall upon air carriers, when air carriers do not control the timeline for design and approval of new IPSB designs. United recommended the compliance deadline be placed in 14 CFR part 25, which would create incentives for part 25 applicants to complete their designs and demonstrate compliance in a timely manner.

The FAA's regulatory approach in this rulemaking is consistent with other, similar rulemakings requiring updates to the existing fleet.¹⁷ In addition, since the requirement only applies to certain operations, i.e., part 121, a generalized requirement in part 25 would not be appropriate. Ensuring that operators change their procedures to comply with § 121.584 require changes to part 121, and so adding the requirement to part 25 would not relieve operators from the burden of compliance. Therefore, consistent with the proposal, the applicability of the requirement for IPSB is provided in part 121.

B. International Harmonization

In the NPRM, the FAA proposed to amend § 121.313 by adding paragraph (l) that would require the installation of an IPSB “that provides line-of-sight visibility between the flight door and the cabin” for aircraft under part 121 operations.

ANAC submitted regulatory text that would move this line-of-sight specification from proposed § 121.313(l) to a new § 25.795(a)(4)(vi). ANAC cited section III.A.4 of the NPRM preamble, which stated that the visibility requirement would be evaluated during certification. ANAC reasoned that part 25 design standards would be a more appropriate

¹⁷ See, e.g., Amendment 121-289, *Improved Flammability Standards for Materials Used in the Interiors of Transport Category Airplane Cabins* (52 FR 5422); Amendment 121-301, *Improved Flammability Standards for Thermal/Acoustic Insulation Materials Used in Transport Category Airplanes* (68 FR 45045); and Amendment 121-306, *Miscellaneous Cabin Safety Changes* (69 FR 62777). All of these regulations required physical design changes to newly-manufactured airplanes, using a two-year compliance time.

part for the visibility requirement, and would also allow foreign countries to comply even if they do not have an equivalent operating rule requiring the installation of an IPSB.

The FAA agrees that the line-of-sight provision is more appropriate as a part 25 design standard in § 25.795 for the reasons the commenter provided. Therefore, the final rule regulatory text reflects this approach.

In the NPRM, proposed § 25.795(a)(4) stated that an IPSB must be installed to resist intrusion into the flightdeck whenever the flightdeck door is opened. ANAC recommended that the FAA rewrite this requirement as, “[i]f an installed physical secondary barrier is installed, it shall resist intrusion into the flightdeck whenever the flightdeck is opened.” ANAC stated that, because Brazil and several other countries adopt part 25 for harmonization purposes, the proposed rule would make the IPSB mandatory for these countries when neither ANAC, nor ICAO, has identified IPSB as a security problem. ANAC recommended that the IPSB mandate be better fitted in the operating regulations of each country.

The FAA agrees with the commenter’s reasoning and has clarified the final rule by including the clause, “if required by the operating rules” to § 25.795(a)(4) in the final rule.

C. Exclusion of All-Cargo and Private-Use Airplanes

Consistent with section 336 of the Act, the FAA intended for the proposed requirements for IPSB to apply only to transport-category airplanes used in passenger-carrying operations under part 121.

A4A and Embraer recommended revising the regulatory text to specify that the requirements exclude all-cargo airplanes, such as by explicitly stating that airplanes used solely to transport cargo would not be required to comply with the proposed mandate for IPSB in § 121.313 by adding the words “of passenger air carriers” in proposed § 121.313(l). These commenters believed Congress, and ARAC, clearly intended to exclude all-cargo air carriers.

The FAA agrees with the commenters' rationale regarding the potential confusion in the proposed regulatory text regarding all-cargo airplanes, and adds the term "passenger-carrying" in § 121.313(l) to specify the requirements will apply to passenger-carrying transport category airplanes only, excluding all-cargo airplanes. This change aligns with the text of section 336, which specified "passenger air carriers."

Airbus also requested that the rule except "private use transportation" from compliance with proposed § 25.795(a)(4), because private use aircraft are usually configured with a cabin that cannot accommodate IPSB installation, and usually contain a low number of occupants who will be familiar with the aircraft. Airbus recommended that § 25.795(e), "Exceptions," be amended accordingly.

The FAA does not agree with Airbus' request. As previously discussed, in the final rule, § 25.795(a)(4) references only those airplanes required by operating rules to have a flightdeck door. The only operating rule that requires an IPSB falls under part 121, and part 121 does not apply to private-use operations. Therefore, no change to proposed § 25.795(e) is needed and § 25.795(e) is finalized as proposed.

D. Requests that the FAA Mandate Retrofit

In the NPRM, the FAA proposed to apply the requirement for an IPSB only to new airplanes that are manufactured two years after the effective date of the final rule. The NPRM did not include a proposed retrofit requirement for those airplanes manufactured prior to that effective date.

ALPA, CAPA, APA, SWAPA, TTD, and an individual requested that the FAA extend the requirement for an IPSB to all aircraft conducting operations under part 121, including older airplanes, rather than to just newly-manufactured airplanes operating under part 121 as proposed. These commenters stated that not requiring an IPSB in existing aircraft under part 121 operations would become a known security vulnerability. These commenters stated that extending the requirements to the existing part 121 fleet would align

with the intent of Congress in mandating an IPSB order be published by October 2019, because doing so would account for the many airplanes that have been manufactured without IPSB installation since that date. Additionally, JCAB, recognizing that the proposed regulations did not have a retrofit requirement, requested that the FAA provide how it evaluated the risks to already-manufactured aircraft.

A4A and United supported the implementation of the IPSB requirements to newly-manufactured aircraft only, as proposed in the NPRM, and stated that a retrofit requirement would not be warranted because current measures remain effective in addressing safety and security concerns. However, rather than being applicable to newly-manufactured aircraft operating under part 121, these commenters recommended that these requirements instead be applicable to newly type-certificated aircraft operating under part 121. A4A stated that application to all newly type-certificated aircraft would be supported by relevant data and the current multi-layered security environment for commercial aviation, including on-board security procedures. A4A and United further cited concerns that application to all newly-manufactured aircraft would result in non-commonality issues within their fleets, as well as increased cost burdens in training and maintenance.

Section 336 was explicit in mandating the FAA to require installation of IPSB on each newly manufactured aircraft. The purpose of this rulemaking is to implement the congressional mandate of IPSB on such aircraft.

In addition, a mandated retrofit is outside the scope of this final rule and would require an independent rulemaking action to implement. The FAA continues to monitor threats to aviation security in conjunction with the Transportation Security Administration (TSA) and other agencies. Should additional flightdeck security measures be deemed necessary, the FAA may propose additional rulemaking.

Similarly, the FAA also does not agree with the suggestion to make the requirements of this rule applicable only to newly-type certificated airplanes, because doing so would not

meet the mandate from Congress. The legislation was explicit in that it mandates the FAA to require installation of IPSB on each new aircraft.

The FAA notes that it, and other U.S. Government agencies, use a variety of tools to continuously assess potential risks to aviation safety and security.

E. Requests to Include Airplanes Operating Under Part 129

In the NPRM, the FAA did not propose to apply the requirement for IPSB to airplanes operating under part 129.

ALPA, APA, CAPA, SWAPA, and TTD requested that the requirements be extended to any aircraft operating under part 129 within the United States, and to part 129 air carriers who operate solely outside the United States but with aircraft registered in the United States. These commenters stated that this extension would follow the same rationale that resulted in the FAA extending the requirement to install hardened flightdeck doors from part 121 to part 129. They reasoned that, while the FAA is bound by the minimum requirements of the legislation in publishing an IPSB requirement, the FAA is not constrained by the legislation when exercising its general Title 49 statutory powers to regulate aviation safety in the public interest, and therefore could establish additional IPSB requirements beyond those expressly required by Congress.

As previously noted, the purpose of this final rule is to implement section 336 of the Act, which limited the applicability of the mandate for IPSB to airplanes manufactured for delivery to passenger air carriers operating under part 121. Moreover, as noted in the NPRM, there currently is no international standards organization, such as ICAO, proposing an IPSB; nor are other civil aviation authorities mandating, or proposing to mandate, an IPSB.

Moreover, extending these requirements to part 129 was not proposed in the NPRM, and is therefore out of scope for this final rule. Accordingly, here is no change and the rule is adopted as proposed in this matter.

F. Crewmember Staffing and Training Concerns

Several commenters sought changes to the proposal to address crewmember staffing and training. In the NPRM, the FAA did not propose any requirements regarding crewmember staffing or training.

AFA-CWA and Cabin Ops recommended the FAA add a crew staffing requirement to this rule, by increasing the required number of flight attendants from one to two, for airplanes with 19 to 50 passenger seats. Currently, for airplanes with a passenger capacity from 19 to 50, only one flight attendant is required.¹⁸ These commenters stated that when the flightdeck door is opened to allow a flightcrew member to leave the flightdeck—for example, to use the lavatory—no crewmember is in the cabin for the period of time that the flightcrew member is away, because the lone flight attendant must enter the flightdeck. They suggest that having a second, required cabin crewmember would maintain at least one crewmember in the cabin.

Cabin Ops also questioned whether the FAA should still require two persons to be on the flightdeck during times where a pilot leaves the flightdeck. The commenter stated that this was not realistic, and suggested that the FAA state in regulations and policy that each passenger air carrier should be required to conduct a safety risk assessment when applying the operational procedures to small regional aircraft.

In contrast, RAA stated that implementation of IPSB would provide an additional layer of security, whereas requiring two flight attendant represents increased long-term costs for certain small air carriers.

The FAA does not agree with the recommendation to increase flight attendant staffing, nor with Cabin Ops' suggestion that an IPSB is incompatible with the requirement for two persons on the flightdeck at all times.¹⁹ Historically, aircraft with a seating capacity

¹⁸ See § 121.391, "Flight attendants."

¹⁹ See, e.g., 14 CFR 121.313(g), 121.547, and 121.587.

of 20 to 50 passengers have successfully and safely operated with one flight attendant. The FAA currently has no data to support mandating two flight attendants on these aircraft. In addition, the installation of an IPSB will isolate the flightdeck door from the cabin in times when it must open. Finally, adding a new crew requirement is outside the scope of the NPRM. The FAA expects that each air carrier, in accordance with part 5, will use its approved processes within its Safety Management System (SMS)²⁰ to identify and control risks identified in its operation.

TTD requested the rule require training on IPSBs for flight attendants.

The FAA does not agree that a specific training requirement is necessary for this rule. When new equipment is installed on an aircraft, § 121.421, “Flight attendants: Initial and transition ground training,” requires flight attendants to be trained on that equipment.

Finally, JCAB, noting the importance of the IPSB only being deployed for a short length of time, asked that such be specified in the operating manual.

Given that the purpose of an IPSB is to slow a security threat so that the flightdeck door can be closed, the FAA does not agree that specifying a maximum duration that the IPSB can be deployed is necessary.

G. Requests to Exclude Smaller Transport Category Airplanes

In the NPRM, the FAA proposed to apply the IPSB requirement to all transport-category airplanes that are required to have a flightdeck door, regardless of the airplane’s size. The FAA also asked for comment, including supporting data, regarding whether aircraft used for flights of shorter distance or duration should be excluded from the requirement, due to the decreased likelihood of the flightdeck door being opened during such flights.

In response, Embraer, the ICCAIA-CSWG, and RAA asked the FAA to consider excluding from the final rule smaller transport category airplanes with flights of shorter

²⁰ See AC 120-92, “Safety Management System for Aviation Service Providers.”

duration. APA, Embraer, and RAA also supported excluding smaller transport category airplanes from this final rule, regardless of the flight duration.

The ICCAIA-CSWG and Embraer, stated that, although short duration flights can be associated with any size of airplane, short flights are to be expected with smaller transport category airplanes, which have a more limited maximum flight duration. These commenters also stated that smaller transport category airplanes have confined interior spaces, with lavatories, galleys, and wardrobes located close to the flightdeck, leaving a very small space for changes to aircraft design. Finally, these commenters stated the design challenges created by the proposed IPSB requirement due to increases in cost and weight, would be more significant for smaller transport category airplanes as compared to the larger airplanes.

A4A, Embraer, and the ICCAIA-CSWG stated that on smaller transport category airplanes, the combination of an Improvised Non-Installed Secondary Barrier (INSB) with procedures and crewmembers training would provide appropriate protection during flightdeck door transition.

In contrast, ALPA, APA, CAPA, and AFA-CWA agreed with the FAA that there was no obvious design parameter, such as passenger capacity or airplane gross weight, which correlated with short flights.

Prior to publication of the NPRM, the FAA tasked ARAC to provide information that could be applied to determine if a certain size of aircraft could be exempted from the requirement to have an IPSB. ARAC did not provide a recommendation on that topic. The NPRM included a similar request for information; however, no specific data or proposed criteria were submitted. Accordingly, while commenters made a number of assertions regarding design challenges, neither the commenters nor ARAC provided data to support a change to the proposal to account for aircraft size or flight duration.

H. Reach-Through Requirement

In the NPRM, the FAA proposed in § 25.795(a)(4)(iv) that the IPSB must prevent a person from reaching through it and touching the flightdeck door.

Airbus, Boeing, and the ICCAIA-CSWG recommended that the FAA change the phrase “touching the flightdeck door” to incorporate different words, including “grasping,” “blocking,” and “grabbing” the flightdeck door. They argued that such changes would be more inclusive of the ways a person can touch a flightdeck door.

The FAA does not agree that the suggested words are more inclusive. Any of the proposed words would need to be defined, whereas the word “touch” is well-understood and more conservative than the recommended words. As such, § 25.795(a)(4)(iv) will remain as proposed in the final rule.

TCCA asked the FAA if it will mandate be a minimum distance between the IPSB and the flightdeck door.

The FAA declines to impose a specified minimum distance between the IPSB and the flightdeck door, because the requirements of this rule are performance-based.

I. Master Minimum Equipment List

In the NPRM, the FAA did not propose any requirements regarding the IPSB and the Master Minimum Equipment List (MMEL).²¹

A4A, Boeing, TCCA, and United commented that the FAA should allow operators Minimum Equipment List (MEL) relief should the IPSB malfunction or become inoperable. They suggested that passenger air carriers should be allowed to temporarily operate aircraft with an inoperable IPSB. These commenters also suggested that the final rule ensure that operators be able to obtain MEL relief for inoperable IPSBs. A4A and United also suggested that in addition to providing MEL relief in the final rule, that the FAA should issue an MMEL Policy Letter that allows for aircraft operation with an inoperative IPSB.

²¹ See § 121.628, “Inoperable instruments and equipment.”

For purposes of the airplane's potential deferral under its MEL or MMEL, and its continued compliance with § 121.584(a), the FAA does not consider an IPSB to be “essential for safe operations under all operating conditions,” in accordance with § 121.628(b)(1). Therefore, the IPSB may be included in an operator's MEL. Finally, in accordance with existing processes, the FAA will evaluate whether an MMEL Policy Letter is necessary.

J. Adequacy of Current Devices and Procedures

In the NPRM, the FAA intended proposed § 121.584(a)(3) to prohibit an operator from unlocking or opening the flightdeck door during flight unless there was an approved audio procedure and an approved visual device to verify that the IPSB, if an IPSB is required to be installed, has been deployed.

Embraer and the ICCAIA-CSWG raised concerns that this requirement could be interpreted as requiring the flightcrew to see—from the flightdeck—that the IPSB is installed, whereas some aircraft configurations may render it impossible to see from the flightdeck that the IPSB is deployed.²² These commenters stated that, if proposed § 121.584(a)(3) were interpreted too strictly, it would require operators to install a system inside the flightdeck to inform the flightcrew that the IPSB is deployed, thus creating an unnecessary burden for those aircraft configurations. These commenters stated that this was not recommended in the Report, nor were the costs of a new visual system accounted for in the NPRM.

Boeing commented that the FAA should have emphasized in the NPRM that compliance with proposed § 121.584(a)(3) can be satisfied with audio and visual devices present in current airplanes and associated crew procedures, without the need for additional flightdeck indications such as an electronic flightdeck indication that the IPSB is deployed.

²² Embraer and the ICCAIA-CSWG used the word “installed,” but the FAA infers that they meant “deployed.”

As explained in the NPRM, the FAA proposed § 121.584(a)(3) to make sure that, if an IPSB is installed, it is deployed any time the flightdeck door is opened during flight. However, this rule does not require the installation of any specific system inside the flightdeck to inform the flight crew that the IPSB is deployed and secured. Operators will work with their FAA oversight office to develop procedures for opening the flightdeck door for different aircraft configurations. The FAA anticipates that operators will continue to utilize various methods similar to their current approved procedures regarding the opening of the flightdeck door (e.g., audio and visual devices present in current airplanes and associated procedures).

K. Cost and Benefit Evaluation

The FAA provided a Preliminary Regulatory Impact Assessment for the proposed requirements in the NPRM. A4A stated that the FAA should have considered, in its cost-benefit analysis, the technical difficulties and the on-going cost implications for the requirement to maintain and operate aircraft with functional IPSB. A4A cited the challenges of redesigning interiors on smaller aircraft with space, monument²³ limitations, and potential maintenance issues for IPSB due to their moving parts, and significant training costs for crewmembers who must work across a fleet with mixed IPSB equipage.

The FAA recognizes the technical difficulties of installing IPSBs on some smaller airplanes, which might increase costs. The FAA relied on the ARAC's \$35,000 per airplane estimate, which included the entire range of affected airplane models, so the FAA's estimate of the overall fleet remains valid. The FAA also estimates that training costs per employee for a simple device such as an IPSB is very low (training time of approximately 30 minutes). Once an employee is trained on a particular IPSB model, the FAA does not believe there will be significant training costs for training on additional models, due to their similarity of function.

²³ Functional units such as galleys, lavatories, are called "monuments."

RAA suggested that the FAA consider excluding operators of short duration flights from the final rule as a means to reduce economic burdens on small entities. The commenter cited the Report which recognized that, for short flights, the flightdeck door may be less likely to be opened, in which case the IPSB would not provide the intended benefit. The commenter also referenced a DOT NPRM²⁴ regarding accessible lavatories on single-aisle aircraft applicable to single-aisle aircraft with 125 or more passenger seats, because DOT tentatively recognized that aircraft with fewer than 125 seats tend to be shorter-haul aircraft, with shorter flight times, where it may not be cost-beneficial to require interior improvements to lavatories, and the commenter extended this rationale to the flightdeck door. The FAA addresses this comment in the section titled “Regulatory Flexibility Act,” under the subsection titled “Significant Issues Raised in Public Comments.”

In the NPRM preamble section titled “Proposed Exception from Incompatible Regulations,” the FAA proposed that, during its certification of the IPSB installation, the requirements of § 25.365 would not apply to IPSBs in the deployed configuration.

TCCA stated that the proposed regulation was not incompatible with the provisions of § 25.365, “Pressurized compartment loads.” TCCA questioned the utility of the expense of building a decompression-resistant IPSB when the Report estimated the probability of decompression to be 10^{-9} when the IPSB is deployed. If the FAA’s intention was to grant exemption from § 25.365 when an IPSB is deployed, then TCCA recommended that the FAA justify that intention based on a cost-benefit argument instead of incompatibility, and also specify the estimated cost differential of a decompression-resistant IPSB.

The FAA agrees that “compatibility” may not be the most accurate term to describe how the FAA makes compliance findings with § 25.365 when the IPSB is deployed. A better term is “applicability.” As noted in the NPRM, the FAA has long considered that § 25.365 does not apply to interior features that have transient configurations (such as a

²⁴ Ibid, 85 FR 27 (2020).

lavatory door) when a door is open. Because deployment of the IPSB is also transient, the FAA has determined that § 25.365 is not applicable to the IPSB when deployed. However, should IPSB designs be proposed that are intended to remain in place, § 25.365 would be applicable.

Airbus recommended that the FAA increase its estimated cost for each IPSB unit from \$35,000 to \$50,000, because if the cost included recurrent and non-recurrent costs, then it should cover development expenses (i.e. engineering costs, stress and analysis, certification testing and witnessing, different prototypes for different aircraft configurations) and supplier development costs.

The FAA does not agree with this recommendation. The cost analysis in the regulatory evaluation for the proposed rule included the \$9 million nonrecurring engineering costs estimated by ARAC. That estimate would have included all costs that Airbus characterizes as development costs, and includes assumed up-front costs for initial aircraft design, partial design reuse for remaining models, and unique installations for each aircraft model.

In the NPRM, the FAA divided total losses (\$35.7 billion) by 50-year cumulative present value costs (\$236.5 million) to derive an annual probability of an attempted attack of 0.66 percent. An individual commenter stated that this calculation was not correct, that dividing a loss by a 50-year cost did not yield an annual probability, but 0.66 percent spread over many years. The commenter suggested that the correct calculation to assess the break-even annual probability of an attempted attack would be to divide total losses (\$35.7 billion) by annualized costs (\$20.3 million), leading to a probability of an attempted attack of 0.057 percent per year.

The FAA does not agree with the suggestion that the break-even analysis is incorrect. An annual probability of 0.66 percent translates to one successful attack every 151 years ($1/151 = 0.0066$ or 0.66 percent). The commenter, in his own comment, stated that

“even if there were only one terrorist hijacking attack in one hundred and fifty years (annual attack probability of 0.7 percent) ..., secondary barriers are cost effective.” The FAA points out that this 0.7 percent estimate is effectively identical to the FAA’s estimate of 0.66 percent.

In addition, the individual commenter took exception to the FAA characterization, in the Regulatory Impact Analysis section of the NPRM, of the commenter’s quantification of benefits in the Briefing Note (Stewart and Mueller, 2019)²⁵ as “problematic.” The commenter stated that any quantifiable risk involves some subjectivity and uncertainty in predicting rates of disruption for security measures.

The statement may be true, but that does not preclude the FAA from determining that the subjectivity and uncertainty is so great as to make accurate estimates problematic; for example, the airport disruption rate for airport checkpoint screening of 15 percent estimated in the Briefing Note compared to a disruption rate of 50 percent estimated by other researchers.

Another individual also stated this rule would have no possible break-even benefit, given the finding of the RIA that the annual probability of an attempted breach of the flight compartment door is 0.66 percent while costing travelers \$236.5 million per year. Using worldwide data for commercial flights, the commenter suggested that the annual probability of a 9/11-type terrorist attack implied by the break-even analysis was orders of magnitude too high.

The FAA notes that \$236.5 million is not the yearly cost of the rule; rather, it is the total present value cost of the rule over the 49-year estimation period, from 2023 to 2072. Table 1 of the regulatory evaluation shows this, and also shows that the corresponding annualized cost is \$20.7 million (at a 7 percent discount rate). In addition, the FAA does not

²⁵ Mark G. Stewart & John Mueller, “Security Risk and Cost-Benefit Assessment of Secondary Flight Deck Barriers,” Centre for Infrastructure Performance and Reliability, The University of Newcastle, Australia (2019), nova.newcastle.edu.au/vital/access/manager/Repository/uon:35881.

agree with the use of all commercial flights worldwide as basis for consideration. A 9/11-type attack would likely require hijacking of a large transport category airplane. Moreover, the focus of the proposed rule and the regulatory analysis is necessarily on transport category airplanes taking off and landing in the United States. Accordingly, the commenter's use of all commercial flights worldwide, including flights with non-transport category aircraft, leads to estimates of excessively low probabilities.

L. Miscellaneous

TCCA and an individual expressed concern that deployment of the IPSB would signal that the flightdeck door was about to be opened, which might have a negative impact on security. TCCA noted that providing some visual obscuration might address this concern, but could conflict with the line-of-sight requirement.

The FAA notes that current procedures for opening the flightdeck door could also provide a similar signal. In that vein, the IPSB enhances flightdeck security, since this rule mandates that the flightdeck door will not be unlocked or opened until after the IPSB is deployed.

In the NPRM, the FAA proposed static load requirements in § 25.795(a)(4) for the IPSB when it is deployed. Airbus requested more details on how and where to apply the requested load on the IPSB.

The FAA notes that the load must be applied at “the most critical location,” and that this requirement is performance-based. The applicant for a design approval of an IPSB will have to define the critical locations for the load. However, the FAA provided draft guidance for applicants on this topic in AC 25.795-10, “Installation of Physical Secondary Barriers for Transport Category Airplanes,” which is in the docket for this rulemaking. This AC states that critical locations should include the IPSB center and the IPSB latch area. This AC will be finalized with the publication of this rule.

TCCA asked whether the aircraft size and weight criteria from § 25.795(b) would be applicable to the proposed § 25.795(b)(4).

The aircraft size and weight criteria in paragraph (b) of § 25.795 are not relevant to the flight deck door requirements of paragraph (a); and, as this rule adds design requirements for IPSB to paragraph (a), the aircraft size and weight criteria in paragraph (b) continue to be inapplicable.

Embraer recommended an edit to the NPRM preamble, under the section titled “Proposed exception from incompatible regulations,” regarding a sentence which stated that, because the proposed rule would not require that the IPSB be deployed during taxi, takeoff, and landing, the amount of time that the IPSB is deployed should be “very brief in comparison to the duration of the flight.” Embraer recommended that the sentence should end at “very brief” to give flexibility for the operator to define, according to its operating procedures, the amount of time that the IPSB is deployed.

The FAA confirms that it was the agency’s intent to convey that operators have flexibility to define the amount of time that the IPSB is deployed.

Three individuals commented that a modular, lightweight, non-porous device would be the fastest and most cost-effective way to install a barrier on existing airplanes.

The FAA notes that the requirements in this final rule are performance-based standards, allowing for various designs.

An individual commenter recommended the FAA require that both the main flightdeck door and the IPSB not be able to be opened at the same time.

This recommendation would likely involve significant design complexity, and cause delay while the FAA conducts additional risk analysis. The FAA has not included this recommendation in the final rule.

V. Regulatory Notices and Analyses

Federal agencies consider impacts of regulatory actions under a variety of executive orders and other requirements. First, Executive Order 12866 and Executive Order 13563, as amended by Executive Order 14094 (“Modernizing Regulatory Review”), direct that each Federal agency shall propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs. Second, the Regulatory Flexibility Act of 1980 (Public Law 96-354) requires agencies to analyze the economic impact of regulatory changes on small entities. Third, the Trade Agreements Act (Public Law 96-39) prohibits agencies from setting standards that create unnecessary obstacles to the foreign commerce of the United States. In developing U.S. standards, the Trade Act requires agencies to consider international standards and, where appropriate, that they be the basis of U.S. standards. Fourth, the Unfunded Mandates Reform Act of 1995 (Public Law 104-4) requires agencies to prepare a written assessment of the costs, benefits, and other effects of proposed or final rules that include a Federal mandate likely to result in the expenditure by State, local, or tribal governments, in the aggregate, or by the private sector, of \$100 million or more annually (adjusted for inflation with base year of 1995). The current threshold after adjustment for inflation is \$177,000,000 using the most current (2022) Implicit Price Deflator for the Gross Domestic Product. This portion of the preamble summarizes the FAA’s analysis of the impacts of the final rule. The FAA provides a detailed Regulatory Impact Analysis in the docket of this rulemaking.

In conducting these analyses, the FAA determined that this final rule (1) has benefits that justify its costs; (2) is an economically “significant regulatory action” as defined in section 3(f) of Executive Order 12866; (3) will not have a significant economic impact on a substantial number of small entities; (4) will not create unnecessary obstacles to the foreign commerce of the United States; and (5) will not impose an unfunded mandate on State,

local, or tribal governments, or on the private sector by exceeding the threshold identified above. These analyses are summarized below.

A. Regulatory Impact Analysis

1. Benefits

During many flights, the flightdeck door must be opened for lavatory breaks, meal service, rest periods, crew changes, etc. During the time of door transition, the open flightdeck has some degree of vulnerability to attack. During these openings, an attack on the flightdeck could happen quickly; this could leave insufficient time for passengers and cabin crew to react. However, there have been no breaches of a flightdeck since the September 11, 2001 terrorist attacks.

The purpose and functional benefit of IPSBs, which Congress directed the FAA to require by mandate, is to enhance the flightdeck security procedures of § 121.584 by slowing the time by which an unauthorized person could reach the flightdeck by at least the time required to open and reclose the flightdeck door.²⁶

A Briefing Note²⁷ (Stewart and Mueller, 2019) provided to the ARAC Flightdeck Secondary Barrier Working Group by one of the members, applied an engineering technique—reliability analysis—to the TSA’s “Layers of Security”²⁸ to estimate the benefits of secondary barriers in reducing the vulnerability of the U.S. commercial fleet to a 9/11-like terrorist attack. This approach requires estimates of “disruption rates” for the various TSA layers of security and also requires an estimate of the probability of a 9/11-like terrorist attack. Estimates of security layer disruption rates are very difficult to make and, accordingly, are highly uncertain. For example, Stewart and Mueller estimate a disruption rate of 15% for the TSA Airport Checkpoint Screening security layer, whereas Martonosi

²⁶ Report, pp. 33-34.

²⁷ Mark G. Stewart & John Mueller, “Security Risk and Cost-Benefit Assessment of Secondary Flight Deck Barriers,” Centre for Infrastructure Performance and Reliability, The University of Newcastle, Australia (2019), nova.newcastle.edu.au/vital/access/manager/Repository/uon:35881.

²⁸ “Inside Look: TSA Layers of Security,” www.tsa.gov/blog/2017/08/01/inside-look-tsa-layers-security.

and Barrett²⁹ estimate the disruption rate to be 50%. Estimating the probability of a 9/11-like terrorist attack is also difficult since there has been only one such event. Consequently, estimating quantified benefits of the IPSB requirements is problematic. Accordingly, the FAA does not endorse the analysis or conclusions of this Briefing Note.

However, based on estimates of costs of the 9/11 attacks, the FAA has conducted a break-even analysis. An authoritative study³⁰ of the costs to New York City of the 9/11 attacks provides an estimate of \$26.6 billion in physical capital and short-term earnings losses,³¹ which amounts to \$38.86 billion in 2021 dollars.³² What remains is to estimate the cost of the 2,763 lives lost in the 9/11 attacks. Using DOT's \$11.8 million dollar estimate of the Value of Statistical Life (VSL),³³ that loss is \$32.60 billion, which added to the physical capital and earnings losses, makes the total New York City costs to be \$71.46 billion. The FAA estimates the cost of a single-airplane 9/11-type attack (and the value of an averted attack) to be half that at \$35.73 billion. The break-even analysis estimates what the annual probability of a single-airplane 9/11-type attack must be in order for the final rule to break even, i.e., for the benefits of the final rule to be equal to its costs. Dividing the \$236.5 million cost³⁴ of the proposed rule by the \$35.7 billion averted attack value yields the breakeven annual probability of an attack to be 0.66%. Multiplying this calculated breakeven probability of attack times the \$35.7 billion averted attack value necessarily returns the \$236.5 million break-even expected value of averting an attack. Such a breakeven analysis implicitly assumes that the proposed rule is completely effective. Thus, here the final rule breaks even, under the assumptions that the probability of an attempted

²⁹ Susan E. Martonosi & Arnold Barnett. 2006. "How Effective is Security Screening of Airline passengers?," *Interfaces* 36(6): 545, 550.

³⁰ Jason Bram, James Orr, and Carol Rapaport. 2002. "Measuring the Effects of the September 11 Attack on New York City," Federal Reserve Bank of New York *Economic Policy Review* 8:2 (November).

³¹ \$21.6 bn in physical capital losses plus the \$5 bn average of \$3.6-\$6.4 bn in short-term earnings losses.

³² \$26.6 bn inflated by ratio of 2021 and 2002 GDP Price Deflators. Source: U.S. Bureau of Economic Analysis, "Table 1.1.4 Price Indexes for GDP." Click "Modify" icon and refresh table with first and last years of period.

³³ U.S. Department of Transportation, Office of Transportation Policy. "Departmental Guidance on the Value of a Statistical Life," www.dot.gov/policy/transportation-policy/economy. Effective Date: March 24, 2022.

³⁴ Assumes 7% discount rate.

attack is 0.66% per year and that the rule will be 100% effective in thwarting any such attack.

2. Costs

The FAA uses the cost estimate of \$35,000 provided by the Report for the purchase and installation of an IPSB. Training costs for pilots and flight attendants are estimated using training hours from the Report and the opportunity costs of pilots and flight attendants estimated from annual hourly wages from the Bureau of Labor Statistics. Costs are estimated in two stages. First-stage costs are calculated for the 25-year period, 2023-2047, during which the fleet operating under part 121 gradually becomes fully equipped with IPSBs. Second-stage costs are calculated to include in the analysis a full 25-year airplane life cycle (2048-2072) for which the entire part 121 fleet is equipped with IPSBs.

(a) Stage One Costs

The FAA estimates the rule will begin to apply to new airplanes operating under part 121 by the end of 2023. The FAA uses its Aerospace Forecast 2020-2040 to estimate the annual increase in the passenger fleet operating under part 121.³⁵ The sum of the forecast increase in the fleet and the number of retirements determines the annual increase in new airplanes operating under part 121 and therefore the annual number of IPSBs that will be installed in airplanes destined for part 121 operations. Annual retirements are estimated assuming a retirement rate (3.57%) that is consistent with the 2020-2040 forecast of the number of airplanes in part 121 operations. A similar analysis is done to determine the IPSB training costs of pilots and flight attendants, except that training costs apply to current as well as future pilots and flight attendants.

³⁵ FAA Forecast FY 2020-2040, Table 21: “US Mainline Air Carriers—Passenger Jet Aircraft,” & Table 25: “Regional Air Carriers—Passenger Aircraft.” Since some regional air carriers operate under part 135 as well as part 121, the estimate of airplanes operating under part 121 is improved by excluding airplanes with less than 20 passenger seats. Estimates for the period 2040-2047 are made assuming the growth rate (1.74%) implied by the FAA part 121 airplane numbers for 2030 and 2040.

(b) Stage Two Costs

As previously noted, second-stage costs are calculated in order to include a full 25-year airplane life cycle (2048-2072) for which the entire part 121 fleet is equipped with IPSBs. For this second stage, the FAA is well beyond the terminal date of the FAA forecast and, accordingly, assumes a constant growth rate for the part 121 fleet. The constant growth rates for pilots and flight attendants are as before.

(c) Other Potential Costs

Stewart and Mueller also discuss potential added risks associated with IPSBs, including, for example, that crew vigilance and responsiveness might be reduced in the presence of an IPSB. The FAA notes that it does not find significant downsides to the installation of the ISPBs if all other relevant regulations are complied with.

(d) Total Costs of the Rule

Table 1 summarizes the total costs of the rule by combining stage one and stage two costs. At a 7 percent discount rate, the present value total costs of this rule are \$236.5 million with annualized costs at \$20.3 million. At a 3 percent discount rate, the present value total costs of this rule are \$505.0 million with annualized costs at \$ 29.0 million.

TABLE 1. TOTAL COSTS OF SECONDARY BARRIERS RULE
(\$ millions)

	Present Value Costs (7%)	Annualized Costs (7%)	Present Value Costs (3%)	Annualized Costs (3%)
2023-2047	\$ 186.0	\$ 16.0	\$ 296.5	\$ 17.0
2048-2072	\$ 50.4	\$ 4.3	\$ 208.6	\$ 12.0
2023-2072	\$ 236.5	\$ 20.3	\$ 505.0	\$ 29.0

1. Present values discounted to 2021 at 7% and 3% discount rates.

2. Columns may not sum to totals due to rounding.

3. Discussion of Alternatives

(a) Alternative 1—Extending the Rule to Include Foreign Carriers Operating Under Part 129³⁶

At this time, neither other civil aviation authorities nor ICAO have identified secondary barriers as a security priority. Therefore, extending the IPSB requirement to foreign air carriers would be without the agreement of other civil aviation authorities. After the events of September 11, 2001, the FAA did apply the hardened flightdeck door requirement to foreign air carriers, but the need for hardened flightdeck doors was recognized internationally and the FAA's standards were reflected in the requirements of most other countries. The FAA estimates that by the time IPSBs are fully adopted by part 121 operators, 35% of part 121 and part 129 operating commercial passenger aircraft will not have an IPSB.

(b) Alternative 2—Exempting the Rule for Short Duration Flights

ARAC recognized that, for short flights, the flightdeck door may not need to be opened, in which case the IPSB would not provide the intended benefit. However, ARAC was unable to identify any airplane design parameter, such as passenger capacity or airplane gross weight that correlates with short flights. Also, the range of all the airplane models that will be affected by this rule exceeds the maximum flight length at which opening the flightdeck door is unlikely. Therefore, this rule does not address an airplane's size or range, or duration of flight.

B. Regulatory Flexibility Act

The Regulatory Flexibility Act (RFA) of 1980, Public Law 96–354, 94 Stat. 1164 (5 U.S.C. 601–612), as amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (Pub. L. 104–121, 110 Stat. 857, Mar. 29, 1996) and the Small Business Jobs Act of

³⁶ Part 129 governs foreign operators who operate either within the United States, or who operate solely outside the United States, but with airplanes registered in the United States.

2010 (Pub. L. 111–240, 124 Stat. 2504, Sept. 27, 2010), requires Federal agencies to consider the effects of the regulatory action on small business and other small entities and to minimize any significant economic impact. The term “small entities” comprises small businesses and not-for-profit organizations that are independently owned and operated and are not dominant in their fields, and governmental jurisdictions with populations of less than 50,000.

The FAA published an Initial Regulatory Flexibility Analysis (IRFA) in the proposed rule to aid the public in commenting on the potential impacts to small entities. The FAA considered the public comments in developing the final rule and this Final Regulatory Flexibility Analysis (FRFA). An FRFA must contain the following:

- (1) A statement of the need for, and objectives of, the rule;
- (2) A statement of the significant issues raised by the public comments in response to the IRFA, a statement of the assessment of the agency of such issues, and a statement of any changes made in the proposed rule as a result of such comments;
- (3) The response of the agency to any comments filed by the Chief Counsel for Advocacy of the Small Business Administration (SBA) in response to the proposed rule, and a detailed statement of any change made to the proposed rule in the final rule as a result of the comments;
- (4) A description of and an estimate of the number of small entities to which the rule will apply or an explanation of why no such estimate is available;
- (5) A description of the projected reporting, recordkeeping, and other compliance requirements of the rule, including an estimate of the classes of small entities which will be subject to the requirement and the type of professional skills necessary for preparation of the report or record; and
- (6) A description of the steps the agency has taken to minimize the significant economic impact on small entities consistent with the stated objectives of applicable statutes,

including a statement of the factual, policy, and legal reasons for selecting the alternative adopted in the final rule and why each of the other significant alternatives to the rule considered by the agency which affect the impact on small entities was rejected.

1. Need for and Objectives of the Rule

This rule is needed to satisfy the requirements of section 336 of the FAA Reauthorization Act of 2018. This law requires that the FAA issue an order for the installation of Secondary Cockpit Barriers on each new airplane that is manufactured for delivery to a passenger air carrier in the United States operating under part 121.

2. Significant Issues Raised in Public Comments

No issues were raised in direct response to the IRFA. However, in comments to the NPRM, some commenters suggested that the FAA consider excluding smaller transport category airplanes from the IPSB requirement as small transports typically have a limited flight duration. As recognized by the ARAC, for short flights the flightdeck door may not need to be opened, in which case the IPSB would not provide the intended benefit. Two commenters stated that on smaller airplanes, a combination of an Improvised Non-Installed Secondary Barrier (INSB) and establishment of procedures and crewmembers training would provide appropriate protection during flightdeck door transition. Some commenters also stated that smaller transport category aircraft have confined interior spaces with lavatories, galleys, and wardrobes close to the flightdeck, leaving a very small space for changes to aircraft design. These commenters also stated that the design challenges created by the IPSB rule, due to increases in cost and weight, are more significant for smaller transport category airplanes as compared to larger transports. RAA specifically suggested that the FAA consider excluding operators of short duration flights from the final rule as a means to reduce economic burdens on small entities.

References to cost impacts on small transport airplanes are relevant here to the extent that they are operated by small operators. Excluding small operators from the rule is

infeasible because no operator would designate airplanes for short flights only and even if they did, the FAA could not be assured that they would not be used for longer flights where an IPSB could be safety-enhancing. The magnitude of the economic impact on small entities is estimated in section 5 below. Even though the FAA makes a very conservative estimate there by assuming immediate installation of IPSBs, at \$35,000 apiece, on a 2% revenue criterion, the FAA shows the economic impact to be insignificant, ranging from 0.06% to 1.13% of revenues for small operators. If \$35,000 is deemed too low because confined space significantly raises the IPSB cost for small operators, that estimate can be stress tested by doubling the IPSB cost estimate to \$70,000. This test increases the range of economic impact from 0.12% to 2.26%. With just 2 of the 11 operators for which the FAA has data showing an impact just over 2%, the FAA still finds an insignificant impact on a substantial number of operators.

3. Responses to SBA Comments

The Chief Counsel for Advocacy of the SBA has not filed any comments in response to the proposed rule.

4. Small Entities to Which the Rule Will Apply

The RFA defines small entities as small businesses, small governmental jurisdictions, or small organizations. In 5 U.S.C. section 601(3), the RFA defines "small business" to have the same meaning as "small business concern" under section 3 of the Small Business Act. The Small Business Act authorizes the Small Business Administration (SBA) to define "small business" by issuing regulations.

SBA has established size standards for various types of economic activities, or industries, under the North American Industry Classification System (NAICS).³⁷ These size standards generally define small businesses based on the number of employees or annual

³⁷ Small Business Administration, Table of Size Standards (2019). www.sba.gov/document/support-table-size-standards.

receipts.

NAICS has classified certificate holders operating under part 121 in either NAICS 481111, Scheduled Passenger Air Transportation or NAICS 481211, Nonscheduled Chartered Passenger Air Transportation, or both. Since the size standard for either industry is the same at 1,500 employees, it is of no concern in which of the two industries they are classified.

In the regulatory impact analysis for this rulemaking, a total of 43 operators operating under part 121 were identified in the FAA's National Vital Information Subsystem (NVIS) data base. Table 2 lists 23 of these operators identified in this study as having less than 1,500 employees and therefore potentially subject to consideration under the Regulatory Flexibility Act. Twelve of these operators were identified as small based on airline employment data (Table 2, col. 3) from the DOT Bureau of Transportation Statistics.³⁸ The remaining eleven operators were identified as having less than 1,500 total employees on the basis of their numbers of operations and maintenance employees (also from the NVIS database). One of the small operators, Piedmont Airlines, was excluded from the regulatory flexibility analysis as it is a wholly-owned subsidiary of American Airlines. Since the remaining 22 small operators are more than 50% of the part 21 operator population, the FAA estimates that a substantial number of small firms are affected by this rulemaking.

³⁸ Transtats.bts.gov.

TABLE 2. DATA FOR REGULATORY FLEXIBILITY ANALYSIS OF SECONDARY BARRIERS RULE

PART 121 OPERATOR NAME	All Ops Emp (NVIS data)	No. Emp (BTS data)	Flt Attend- ants	Pilots	No. Aircraft	2015 \$ mn	2016 \$ mn	2017 \$ mn	2018 \$ mn	2019 \$ mn	Avg Rev 2015- 2019	IPSB Cost (\$ 000)	IPSB Cost/ Avg Rev	Notes
AERODYNAMICS INC	37		10	15	2							70		Operation certificate terminated Oct. 2020.
AIR WISCONSIN AIRLINES LLC	1120		289	571	67	536	443	248			409	2,345	0.57%	
CARIBBEAN SUN AIRLINES INC	104	158	51	20	7			34	37	38	27	245	0.90%	Doing business as World Atlantic Airlines.
CHAMPLAIN ENTERPRISES INC	713		170	330	37		115	135			122	1,295	1.06%	Operates mainly through subsidiary CommutAir, which operates as United Express.
COMPASS AIRLINES LLC	1299	1,438	469	531	48	177	235	236	241	228	223	1,680	0.75%	Shut down due to Covid.
CORVUS AIRLINES INC	156		29	61	10							350		Bankrupt July 2020.
EASTERN AIRLINES LLC	146	196	88	30	8		56	28			42	280	0.67%	
ELITE AIRWAYS LLC	139	130	40	43	13				134	117	126	455	0.36%	
EMPIRE AIRLINES INC	332		14	134	60							2,100		
GOJET AIRLINES LLC	918	977	292	487	43	204	227	238	257	265	238	1,505	0.63%	Trans States Holding WOS.
GULF AND CARIBBEAN CARGO INC	79	122	0	41	19							665		
HILLWOOD AIRWAYS, LLC	49	35	14	9	2							70		
KAISERAIR INC	94	68	15	38	7							245		
KEY LIME AIR CORPORATION	123		9	38	35							1,225		
MIAMI AIR INTERNATIONAL INC	249	351	131	67	6	108	105	119	118	112	112	210	0.19%	Liquidated May 2020.
OMNI AIR INTERNATIONAL LLC	758	1045	302	246	14	360	336	358	493	541	418	490	0.12%	
PENINSULA AVIATION SERVICES INC	80		18	17	6							210		Saudi Arabian A/C refueling.
PIEDMONT AIRLINES INC	1096		231	530	60							2,100		WOS of American Airlines.
SEABORNE VIRGIN ISLAND INC	96		17	29	7							245		Subsidiary of Silver Airways.
SIERRA PACIFIC AIRLINES INC	43	35	12	11	2							70		
SILVER AIRWAYS LLC	355		56	142	26	119				42	80	910	1.13%	
TEM ENTERPRISES	21	25	5	5	1	55	97	81		2	59	35	0.06%	Doing business as Xtra Airways.
TRANS STATES AIRLINES LLC	1116		244	464	48							1,680		Planned shutdown accelerated due to Covid.

5. Projected Reporting, Recordkeeping, and Other Compliance Requirements

Since the IPSB rule applies to only new airplanes entering the fleet, the analysis assumes that each operator's current fleet is replaced immediately even though the fleet airplanes generally will be replaced only when they are retired. Though airplanes could be retired any time over the next 25 years depending on the age of the airplane, the analysis assumes immediate replacement to ensure that the economic impact is not underestimated. The regulatory impact analysis assumes that the average retirement age of transport category airplanes is 25 years.

The economic impact is assessed using 11 of the 22 small operators for which revenue data is available from Cirium's (formerly FlightGlobal) FlightFleets Analyzer. The analysis uses average revenue for the five-year period 2015-2019. Revenue figures for the 11 operators are available for an average of 3.45 years. For an operator, the economic impact is measured as the estimated \$35,000 cost of an FAA-certified IPSB times number of airplanes, as a percentage of the average revenue. The number of airplanes is from the SPAS database as of January 9, 2020. The regulatory impact analysis also considers training costs for flight attendants and pilots, but these costs are not included here as they have a trivial effect on the results.

As Table 2 shows, the economic impact ranges from 0.06% and 1.13% of sales, which averages to 0.60%. On a 2% criterion that the economic impact is significant only if cost is at least 2% of a small firm's annual revenues, there is no significant economic impact for any small firm. On a 1% criterion, the economic impact is barely significant for just 2 of the 11 firms for which data is available. Bearing in mind that these estimates are very conservative, the FAA concludes that there is not a significant impact on a substantial number of small firms.

6. Significant Alternatives Considered

The FAA evaluated alternatives to this rulemaking that could minimize impacts on small entities. The FAA identified only alternative 2 of its regulatory impact analysis as potentially minimizing such impacts. Specifically, the FAA considered exempting short duration flights from the rule as a means of reducing economic impacts on small entities. ARAC recognized that, for short flights, the flightdeck door may not need to be opened, in which case the IPSB would not provide the intended benefit. However, ARAC was unable to identify any airplane design parameter, such as passenger capacity or airplane gross weight that sufficiently correlates with short flights. Also, the range of all the airplane models that will be affected by the rule exceeds the maximum flight length at which opening the flightdeck door is unlikely.

C. International Trade Impact Assessment

The Trade Agreements Act of 1979 (Public Law 96-39), as amended by the Uruguay Round Agreements Act (Public Law 103-465), prohibits Federal agencies from establishing standards or engaging in related activities that create unnecessary obstacles to the foreign commerce of the United States. Pursuant to these Acts, the establishment of standards is not considered an unnecessary obstacle to the foreign commerce of the United States, so long as the standard has a legitimate domestic objective, such as the protection of safety, and does not operate in a manner that excludes imports that meet this objective. The statute also requires consideration of international standards and, where appropriate, that they be the basis for U.S. standards.

The FAA has assessed the potential effect of this final rule and has determined that it will have a legitimate domestic objective, in that it will increase the safety of the United States from terrorist attacks on U.S.-operated airplanes. This rule would not operate in a manner as to directly affect foreign trade and, therefore, would have little or no effect on foreign trade.

D. Unfunded Mandates Assessment

Title II of the Unfunded Mandates Reform Act of 1995 (Public Law 104-4) requires each Federal agency to prepare a written statement assessing the effects of any Federal mandate in a proposed or final agency rule that may result in an expenditure of \$100 million or more (in 1995 dollars) in any one year by State, local, and tribal governments, in the aggregate, or by the private sector; such a mandate is deemed to be a “significant regulatory action.” The FAA currently uses an inflation-adjusted value of \$177.0 million in lieu of \$100 million.

This rule does not contain such a mandate. Therefore, the requirements of Title II of the Unfunded Mandates Reform Act do not apply.

E. Paperwork Reduction Act

The Paperwork Reduction Act of 1995 (44 U.S.C. 3507(d)) requires that the FAA consider the impact of paperwork and other information collection burdens imposed on the public. The FAA has determined that there will be no new requirement for information collection associated with this rule.

F. International Compatibility and Cooperation

In keeping with U.S. obligations under the Convention on International Civil Aviation, it is FAA policy to conform to ICAO Standards and Recommended Practices to the maximum extent practicable. The FAA has determined that there are no ICAO Standards and Recommended Practices that correspond to these regulations.

G. Environmental Analysis

In accordance with the provisions of regulations issued by the Council on Environmental Quality (40 CFR parts 1500 through 1508), FAA Order 1050.1F identifies FAA actions that are categorically excluded from preparation of an Environmental Assessment or Environmental Impact Statement under the National Environmental Policy Act in the absence of extraordinary circumstances. The FAA has determined this final rule action qualifies for the categorical exclusion identified in paragraph 5-6.6(d) because

no significant impacts to the environment are expected from publication of this final rule and it involves no extraordinary circumstances.

VI. Executive Order Determinations

A. Executive Order 13132, Federalism

The FAA has analyzed this final rule under the principles and criteria of Executive Order (EO) 13132, Federalism. The FAA has determined that this action will not have a substantial direct effect on the States, or the relationship between the Federal Government and the States, or on the distribution of power and responsibilities among the various levels of government, and, therefore, will not have federalism implications.

B. Executive Order 13175, Consultation and Coordination with Indian Tribal Governments

Consistent with Executive Order 13175, Consultation and Coordination with Indian Tribal Governments,³⁹ and FAA Order 1210.20, American Indian and Alaska Native Tribal Consultation Policy and Procedures,⁴⁰ the FAA ensures that Federally Recognized Tribes (Tribes) are given the opportunity to provide meaningful and timely input regarding proposed Federal actions that have the potential to have substantial direct effects on one or more Indian tribes, on the relationship between the Federal Government and Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes; or to affect uniquely or significantly their respective Tribes. At this point, the FAA has not identified any unique or significant effects, environmental or otherwise, on tribes resulting from this final rule.

C. Executive Order 13211, Regulations that Significantly Affect Energy Supply, Distribution, or Use

³⁹ 65 FR 67249 (Nov. 6, 2000).

⁴⁰ FAA Order No. 1210.20 (Jan. 28, 2004), available at www.faa.gov/documentLibrary/media/1210.pdf.

The FAA analyzed this final rule under EO 13211, Actions Concerning Regulations that Significantly Affect Energy Supply, Distribution, or Use (May 18, 2001). The FAA has determined that it is not a “significant energy action” under the Executive order and is not likely to have a significant adverse effect on the supply, distribution, or use of energy.

D. Executive Order 13609, Promoting International Regulatory Cooperation

Executive Order 13609, Promoting International Regulatory Cooperation, promotes international regulatory cooperation to meet shared challenges involving health, safety, labor, security, environmental, and other issues and to reduce, eliminate, or prevent unnecessary differences in regulatory requirements. The FAA has analyzed this action under the policies and agency responsibilities of Executive Order 13609, and has determined that this action will have no effect on international regulatory cooperation.

VII. Additional Information

A. Electronic Access and Filing

A copy of the NPRM, all comments received, this final rule, and all background material may be viewed online at www.regulations.gov using the docket number listed above. Electronic retrieval help and guidelines are available on the website. It is available 24 hours each day, 365 days each year. An electronic copy of this document may also be downloaded from the Office of the Federal Register’s website at www.federalregister.gov and the Government Publishing Office’s website at www.govinfo.gov. A copy may also be found at the FAA’s Regulations and Policies website at www.faa.gov/regulations_policies.

Copies may also be obtained by sending a request to the Federal Aviation Administration, Office of Rulemaking, ARM-1, 800 Independence Avenue S.W., Washington, D.C. 20591, or by calling (202) 267-9677. Commenters must identify the docket or notice number of this rulemaking.

All documents the FAA considered in developing this final rule, including economic analyses and technical reports, may be accessed in the electronic docket for this rulemaking.

B. Small Business Regulatory Enforcement Fairness Act

The Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996 requires the FAA to comply with small entity requests for information or advice about compliance with statutes and regulations within its jurisdiction. A small entity with questions regarding this document may contact its local FAA official, or the person listed under the **FOR FURTHER INFORMATION CONTACT** heading at the beginning of the preamble. To find out more about SBREFA on the Internet, visit www.faa.gov/regulations_policies/rulemaking/sbre_act/.

List of Subjects

14 CFR Part 25

Aircraft, Aviation safety, Reporting and recordkeeping requirements.

14 CFR Part 121

Air carriers, Aircraft, Airmen, Alcohol abuse, Aviation safety, Charter flights, Drug abuse, Drug testing, Reporting and recordkeeping requirements, Safety, Transportation.

The Amendment

In consideration of the foregoing, the Federal Aviation Administration amends chapter I of title 14, Code of Federal Regulations as follows:

PART 25—AIRWORTHINESS STANDARDS: TRANSPORT CATEGORY

AIRPLANES

1. The authority citation for part 25 is revised to read as follows:

Authority: 49 U.S.C. 106(f), 106(g), 40113, 44701, 44702 and 44704; Pub. L. 115-254, 132 Stat 3281 (49 U.S.C. 44903 note).

2. In § 25.795, add paragraph (a)(4) to read as follows:

§ 25.795 Security considerations.

(a) * * *

(4) If required by the operating rules of this chapter, an installed physical secondary barrier (IPSB) must be installed to resist intrusion into the flightdeck whenever the flightdeck door is opened. When deployed, the IPSB must:

- (i) Resist a 250 pound (1113 Newtons) static load in the direction of the passenger cabin applied at the most critical locations on the IPSB;
- (ii) Resist a 600 pound (2669 Newtons) static load in the direction of the flightdeck applied at the most critical locations on the IPSB;
- (iii) Delay a person attempting to access the flightdeck by at least the time required for a crewmember to open and reclose the flightdeck door, but no less than 5 seconds;
- (iv) Prevent a person from reaching through and touching the flightdeck door;
- (v) Allow for necessary crewmember activities; and
- (vi) Provide line-of-sight visibility between the flightdeck door and the cabin.

* * * * *

**PART 121—OPERATING REQUIREMENTS: DOMESTIC, FLAG, AND
SUPPLEMENTAL OPERATIONS**

3. The authority citation for part 121 continues to read as follows:

Authority: 49 U.S.C. 106(f), 106(g), 40103, 40113, 40119, 41706, 42301 preceding note added by Pub. L. 112-95, sec. 412, 126 Stat. 89, 44101, 44701-44702, 44705, 44709-44711, 44713, 44716-44717, 44722, 44729, 44732; 46105; Pub. L. 111-216, 124 Stat.

2348 (49 U.S.C. 44701 note); Pub. L. 112-95, 126 Stat. 62 (49 U.S.C. 44732 note); Pub. L. 115-254, 132 Stat. 3186 (49 U.S.C. 44701 note).

4. In § 121.313, add paragraph (l) to read as follows:

§ 121.313 Miscellaneous equipment.

* * * * *

(l) For airplanes required by paragraph (f) of this section to have a door between the passenger and pilot or crew rest compartments, and for passenger-carrying transport category airplanes that have a door installed between the pilot compartment and any other occupied compartment, that were manufactured after August 25, 2025, an installed physical secondary barrier (IPSB) that meets the requirements of § 25.795(a)(4) of this chapter in effect on [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

5. In § 121.584, add paragraph (a)(3) to read as follows:

§ 121.584 Requirement to view the area outside the flightdeck door.

* * * * *

(a) * * *

(3) If the airplane is in flight, any installed physical secondary barrier (IPSB) required by § 121.313(l) has been deployed; and

* * * * *

Issued under authority provided by Pub. L. 115-254, 49 U.S.C. 106(f) and 44701(a) in Washington, DC, on June 14, 2023.

Polly Trottenberg,

Acting Administrator.

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